Recommended Guidelines for Blood Glucose Control

Students with diabetes need to obtain a blood glucose level and to respond to the results as quickly and conveniently as possible. This is important to avoid medical problems being worsened by a delay in testing/treatment and to minimize educational problems caused by missing instructions in the classroom.

To maximize instructional time, a student should be allowed to check his or her blood glucose level and take appropriate action to treat hypoglycemia. This applies to the classroom or anywhere the student is in conjunction with a school activity, if preferred by the student and indicated in the student's Individualized Health Plan. However, some students prefer to test their blood glucose in private and their privacy should be respected.*

See the table below for Recommended Guidelines for Blood Glucose Control. Blood glucose values less than 90 are considered low and should be monitored. When you schedule appointments with your physicians or your dietitian, remember to bring a logbook containing two weeks of blood glucose values to each appointment.

The "Take Action" column implies a possible insulin or food adjustment. We recommend keeping a log of three to five days of blood glucose values to identify a pattern of consistent high blood glucose before calling for an insulin adjustment. If blood glucose is consistently low, call for an insulin adjustment.

Dietitians recommend reviewing food intake and carbohydrate counting skills to make sure inconsistent eating is not the cause of varying blood glucose values. Checking food portions with measuring cups is helpful.

Remember, unless you are on Multiple Daily Injections (three shots per day) or an Insulin Pump, you should have a consistent carbohydrate meal plan to follow.

Summer exercise and activities may also influence blood glucose. A rule of thumb is to take one extra carbohydrate (15 grams) for each 30-45 minutes of more strenuous activity in addition to the current meal plan.

* Source: "Diabetes Care in the School and Day Care Setting". *Diabetes Care*, Volume 27, Supplement 1, Pages S122-S128, January 2004.

Recommended Guidelines for Blood Glucose Control

NOTE: Ranges may vary according to individual needs

	Plasma Monitor Values		**Whole Blood Monitor Values**	
When	**Goal BG**	**Take Action**: If BGs are out of range 2-3 days in a row	**Goal BG**	**Take Action**: If BGs are out of range 2-3 days in a row
Before meals (Kids 5 years and older)	90-130	Less than 90 or greater than 150	80-120	Less than 80 or greater than 140
Kids under 5 years	100-200	Less than 100 or greater than 200	100-200	Less than 100 or greater than 200
2 hrs after meals (MDI or Pumps)	Within 40 of premeal BG but less than 180	If less than or greater than 40 of premeal BG	Within 40 of premeal BG but less than 180	Less than or greater than 40 of premeal BG

Adapted from: "Shot Talk" produced by Children's Mercy Hospital & Clinics, The Children's Diabetes Center – Summer, 2001

Proper interpretations of A1C test results requires that health care providers understand the relationship between test results and average blood glucose, kinetics of the A1C test, and specific assay limitations. Data from the Diabetes Control and Complications Trial (DCCT) relating A1C test results to mean plasma glucose levels appear in Table 1, but this data should be used with caution if the A1C test assay method is not certified as traceable to the DCCT reference method.

Table 1. Correlation Between A1C Level and Mean Plasma Glucose Levels

	Mean Plasma Glucose	
A1C (%)	mg/dl	mmol/l
6	135	7.5
7	170	9.5
8	205	11.5
9	240	13.5
10	275	15.5
11	310	17.5
12	345	19.5

Source: American Diabetes Association, Diabetes Care, Volume 26, Supplement 1, January 2003.

Blood Glucose Monitors

Below is a list of Blood Glucose Monitors. For a complete list of Blood Glucose Monitors and Data Management Systems, please visit the American Diabetes Association's 2004 Resource Guide at: http://www.diabetes.org/uedocuments/monitors-tables.pdf

Plasma Meters		
Accu-Check Active	BD latitude Diabetes	Presitge IQ
Accu-Check Advantage	BD Logic	Presige LX
Accu-Check Compact	FreeStyle	Precision Sof-Tact
Accu-Check Complete	FreeStyle Flash	Precision Xtra
Accu-Check Voicemate	FreeStyle Tracker	QuickTek
Ascensia Breeze System	Hypoguard Advance	Supreme II
Ascensia DEX 2	OneTouch InDuo	TrueTrack Smart System
Ascensia Elite	OneTouch SureStep	
Ascensia Elite XL	OneTouch Ultra	
Assure	OneTouch UltraSmart	
Assure II	Focus Blood Glucose Montoring System	

Whole Blood Meters			
One Touch Profile	One Touch Basic	One Touch II	ReliOn

Adapted from: *Diabetes Forecast,* 2004 Resource Guide, Volume 57, Number 1, Pages RG 40-47.